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Research / Araştırma

Is Headache only Headache? Comorbidity of Headaches and Mental Disorders

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ABSTRACT

Is headache only headache? Comorbidity of headaches and mental disorders

Objective: To determine the psychiatric disorders comorbid with headaches and the characteristics of these disorders.

Method: Patients who admitted to the neurology outpatient clinic with a main complaint of headache (n=71), and the same number of patients matching with age and sex (n=71) who admitted to the psychiatry outpatient clinic and had a non-psychotic diagnose in axis I were included into the study. Socio-demographic data and information about their headaches were obtained from all patients. The Visual Analog Scale and MINI-scan form were obtained and psychiatric diagnoses were made after the assessment by MINI.

Results: There was not any difference between headache and psychiatric patients group in terms of socio-demographic data. Headache history was found higher in the families of headache group than the psychiatric patients group. High prevalence of psychiatric comorbidity was found in patients with headache (80.3%). All of the patients with tension-type headache (TTH) fulfilled the criteria for diagnosing a pain disorder by MINI, and also the high prevalence of psychiatric comorbidity (63.4%) was still taking place after excluding the pain disorder. The most frequent diagnose of psychiatric comorbidity was found as depressive disorders (64.8%) which is compatible with the literature.

Discussion: The high prevalence of psychiatric comorbidity with headache is remarkable. More common family history of headache in headache patients than the other group suggests that there is a tendency to have headache independent from a psychiatric disorder in these patients. High comorbidity rate in the presence of psychosocial stressors suggests that there is a continuum among psychiatric comorbidity, headache and psychosocial stressors. Among the psychiatric comorbidity, depressive disorders predominate. On the other hand, the higher frequency of psychiatric comorbidity in patients with TTH is remarkable. It is observed that the uncertainty between the diagnostic criteria of pain disorder in DSM-IV and diagnostic criteria of TTH (Tension Type Headache) in ICHD (International Classification of Headache Disorders) causes some problems both in diagnosing and treatment of patients and also in researches.

Key words: Anxiety, depression, headache, psychiatric comorbidity

ÖZET

Baş ağrısı yalnızca baş ağrısı mıdır? Baş ağrısı ile ruhsal bozuklukların eştanısı

Amaç: Baş ağrısına eşlik eden psikiyatrik hastalıkların ve özelliklerinin saptanması.

Yöntem: Çalışmamıza nöroloji polikliniğine temel başvuru yakınması baş ağrısı olan hastalar (n=71) ile psikiyatri polikliniğinde psikotik bozukluklar dışında I. eksen psikiyatrik bozukluk tanısı konulan, cinsiyet ve yaş açısından bire bir eşleştirilen hastalar (n=71) alınmıştır. Tüm hastalardan sosyodemografik ve baş ağrısı bilgileri alınmış, hepsine Görsel Kıyas Ölçeği, MINI-Tarama formu uygulandıktan sonra MINI ile psikiyatrik değerlendirmeleri yapılarak psikiyatrik tanıları konulmuştur.

Bulgular: Çalışma sonucunda nörolojiye başvuran baş ağrısı grubu ve psikiyatrik hasta grubu arasında sosyodemografik özellikler açısından fark olmadığı, baş ağrısı olanların ailelerinde baş ağrısı öyküsünün belirgin olarak daha çok olduğu bulunmuştur. Baş ağrısı hastalarında psikiyatrik eş tanı sıklığının yüksek (%80.3) olduğu görülmüştür. Gerilim tipi baş ağrısı olanların tümünün MINI ile yapılan görüşmede ağrı bozukluğu tanı ölçütlerini karşıladığı, ağrı bozukluğu dışlandığında da psikiyatrik eş tanı sıklığındaki yüksekliğin (%63.4) devam ettiği gözlenmiş ve en sık rastlanan psikiyatrik eş tanının literatür bilgisiyle uyumlu olarak depresif bozukluklar (%64.8) olduğu görülmüştür.

Tartışma: Baş ağrısı hastalarında psikiyatrik eş tanı yüksekliği dikkat çekicidir. Hastaların ailelerinde baş ağrısı öyküsünün belirgin olarak daha çok olması, kişide psikiyatrik bir sorun varlığından bağımsız bir baş ağrısı eğilimini işaret etmektedir. Psikososyal stresör varlığında yüksek eş tanı oranlarının olması, psikososyal stresör, psikiyatrik eş tanı ve baş ağrısı arasında bir süreklilik olduğunu göstermektedir. Psikiyatrik eş tanılar arasında depresif bozukluklar (depresyon) ağırlık taşımaktadır. Öte yandan araştırmamız gerilim tipi baş ağrısı hastalarındaki psikiyatrik eş tanı yüksekliğine dikkat çekmektedir. DSM-IV'teki ağrı bozukluğu tanı ölçütleri ile ICHD (International Classification of Headache Disorders) gerilim tipi baş ağrısı tanı ölçütlerinin sınırları belli bir klinik tablo oluşturmamasının araştırmalarda ve hastaların tanı - tedavisinde sorunlara yol açtığı görülmektedir.

Anahtar kelimeler: Anksiyete, depresyon, baş ağrısı, psikiyatrik eş tanı

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INTRODUCTION

Headache is an important border issue of neurology and psychiatry. There is a major overlap on the subject between the two fields. Even though it is known that there is not enough evidence on the causation of headaches, there is a general acceptance about its association with mental disorders or factors (1). The subject of psychiatric disorders as a reason for headaches does not seem to be clarified. The general assessment of the place of mental disorders within headache diagnosis criteria changes over time. None the less, diagnostic systems which determine psychiatric and neurologic approaches to a great extent have not solved this border issue. Pain disorder, including headaches as an all-encompassing diagnosis for psychogenic bodily pain is described as "pain that is not the result of any psychologic disorder but has a role of some psychological factors in its starting and it is severe enough to cause stress and serious decline in functionality" (2).

Even though mental disorders or factors were counted among reasons for tension type headaches (TTH) in the first ICHD (International Classification of Headache Disorders) accepted in 1988, in the second ICHD published in 2004, headaches related to psychiatric disorders were added to secondary headaches (3). The issue of listing of psychological disorders as a secondary reason for headaches is not yet solved and it seems that the solution is left to be dealt with in the future in ICHD. Nonetheless, the relation of tension headaches and migraines listed as primary headaches with mental factors is not illuminated completely.

Researches beyond classification systems show that the relation of mental and psychiatric factors with headache may be based on predisposition, triggering, severity and influence on the duration or headache may manifest as a symptom of a psychiatric disorder (1). It is known that headache is seen together with many psychiatric illnesses from major depression to adjustment disorders. On the other hand, it is known that long lasting severe headaches cause mental disorders (3,4).

In many epidemiologic and public health studies, it has been determined that psychiatric disorders such as depression and anxiety (4), even personality disorders are more common among recurring headache patients than general population (5), that accompanying psychological complaints increase the quest for medical help in headache patients and worsen the course of illness. It has been shown that headaches, many of which are chronic (migraine, tension headache) adversely affect the mental health and social life of patients with their direct and indirect outcomes (6,7) and that there is a two-way relationship between depression and headaches (8). On the other hand, the annual prevalence of chronic tension headache in general population is approximately 2-5% and a decrease in productivity has been reported in half of them (9).

The aim of this study is to determine the accompanying mental illnesses of patients who seek treatment for headaches and to determine similarities and differences in patients with non-psychotic psychiatric disorder diagnoses and migraine and tension headache patients who consulted the outpatient clinic.

METHOD

The Study was approved by Abant Izzet Baysal University Medical Research Ethical Council Commission with document number 2010/29 dated 09.22.2011.

The study was conducted on two patient groups named "headache group" and "psychiatric patient group". Among patients who applied to our neurology outpatient clinic with a complaint of headaches all who accepted to take part in our study (n=71) were put into the headache group. These are patients between ages 18-65, literate, diagnosed with clinical tension headache or migraine according to ICHD criteria (patients who had diagnoses in other medical areas were excluded) who do not have hearing or seeing disabilities or any other conditions that would create cognitive impairment. Headache diagnoses were made by a professor and a last year assistant from the neurology clinic in accordance with ICHD diagnosis criteria (3).

Over the course of the study, it was determined that among 2321 patients who consulted the neurology outpatient clinic, 631 had headache as their primary

complaint (27.2%). Among headache patients 123 (approximately 1/5, patients who came to the clinic on a fixed day of the week) were evaluated according to criteria to take part in the study. Among these patients 82 accepted to take part in the study and 71 (85.5%) who fit the acceptance criteria were included to the study. After the evaluation, patients who were diagnosed with Axis I psychiatric disorder were given treatments within regular health service flow.

Psychiatric patient group (n=71) were also chosen from patients who applied to the psychiatry outpatient clinic during the course of the study and who fit the acceptance criteria. Acceptance criteria consisted of a) matching with the headache group patients in terms of age and gender, b) having applied for psychiatric treatment for the first time or not having received psychiatric treatment at least for the last six months c) having non psychotic disorder in Axis I according to DSM-IV TR, d) having headache complaints e) having possible non-psychiatric reasons for complaints excluded. Psychiatric diagnoses were made by a professor and a last year assistant researcher from the psychiatry outpatient clinic and the diagnoses were confirmed using MINI (10).

In our study, the differential diagnosis for headache for patients in the psychiatry group was made by researchers from the psychiatry clinic. The reason for this was the difficulty of achieving an assessment without bias for psychiatric patients by the neurology clinic.

A written "informed consent" was taken from each patient. Each patient taking part in the study received a standard outpatient clinical exam, was diagnosed with the MINI-Plus 5.0.0 diagnostic tool and the severity of the headache was assessed with Visual Analogue Scale (VAS). The Form for Sociodemographic Data and the Headache Information were filled by the researcher.

Measures

The Form for Sociodemographic and Headache Information: A semi-constructed form prepared by the researchers was used to compile the patients' sociodemografic information and the information on the individual's and his/her family's physical and mental illnesses and headaches. Information about the families were taken from patients who participated in the study.

The MINI-International Neuropsychiatric Interview Guide 5.0.0 Turkish version: It is a constructed interview tool created for axis I disorders in DSM-IV and ICD-10. MINI was compared with SCID-I and CIDI and proved to be highly reliable and applicable in a shorter time. MINI Plus is a more detailed version of MINI. The Turkish translation of MINI was done by Engeler (10).

VAS-Visual Analogue Scale: VAS is used to convert some subjective and non-measurable values to numeric. The two extremes of the variable to be assessed are written on the two edges of a 10 cm. line. Then, the patient is asked to mark his/her situation on the line. VAS is used as an international standard scale. Reliability and validity studies were conducted by Prices (11-13).

Statistical Analysis

Statistic analyses were made with SPSS 17.0 program. In the assessment of data, descriptive statistical methods were used. One Way Analysis of Variance (One Way ANOVA) was used in comparisons between multiple groups. Bonferroni multiple comparison test was used in subgroup comparisons. Independent t test in the comparison of quantitative data of double groups, and chi-square test was used in comparing qualitative data. Level $p<0.05$ was taken as a basis for significance when evaluating the results.

RESULTS

A total of 142 people participated in the study. Each group consisted of 71 people, 62 women (87.3%) and 9 (12.7%) men. The quantitative difference among genders within the whole group and each group were not taken into consideration because patients admitted to the study were all headache patients who applied to the neurology clinic who met the study criteria. The psychiatry group was paired according to age and gender.

The age range of patients was 18-65. Average age among headache patients was 34.96 (SD=12.13), and 33.14 (SD=12.35) among psychiatry patients and no significant difference was found between them. In the gender comparison of the whole group, the average age for women was 34.64 (SD=12.51) and 30.00 (SD=9.38) for men. In the headache group, average age for women was 35.79 (SD=12.68) and 29.22 (SD=9.16) for men. In the psychiatric patient group the average age for women was 33.48 (SD=12.68) and 30.78 (SD=10.08) for men. It was determined that there was no difference between average ages of patients from different genders.

In the study, 8 year elementary school graduates were put together with middle school graduates. It was determined that in the headache group there were 30 elementary school graduates, 9 middle school graduates, 25 high school graduates and 7 university graduates. In the psychiatry group, there were 1 literate, 25 primary school graduates, 6 middle school graduates, 28 high school graduates and 11 university graduates. No difference was found among them in terms of distribution. Total years of education, taking the finished school or the grade the school was left as the basis (lost years by repeating a grade was not taken into account) was an average of 8.99 years in the headache group and 9.56 years in the psychiatry group. No significant difference between them was determined. In the whole patient group, it was observed that the shortest duration of education was 3 years and the longest 17 years. No difference was determined between groups in terms of age, marital status, number of children, educational background, work situation, presence of any physical illness, presence of any physical illness in the family, presence and/or absence of support, presence of past psychiatric illness, cigarette smoking or drug usage, and the place lived in the last ten years. In the psychiatric patient group, number of patients born in a rural region was significantly higher.

Among the headache group 60.6% (n=43) had migraine, 38.0% (n=27) tension headaches and 1.4% (n=1) cluster headache. Among patients with migraine, 81.4% (n=35) had migraine without aura and 18.6% migraine with aura. Among patients with tension headache, 16 (59.3%) had the episodic type and 11 (40.7%) the chronic type. It was determined that among psychiatric patient group, 62% (44 persons) had reported headache complaints. The headache group was divided into two subgroups according to main diagnoses (migraine and tension headache), the person with the cluster headache was not included in the comparisons. In the psychiatry group, two subgroups were created; the ones with headache and the ones without headache.

Among these four subgroups, there were no significant differences in terms of sociodemographic variables: Age ($F=0.53$, $p>0.05$), gender ($\chi^2=3.8$, $p>0.05$), marital status ($\chi^2=4.03$, $p>0.5$), number of children ($F=0.39$, $p>0.05$), education ($\chi^2=8.18$, $p>0.05$), employment status ($\chi^2=2.37$, $p>0.05$) presence of any physical illness ($\chi^2=5.59$, $p>0.05$), presence of any physical illness in the family ($\chi^2=1.99$, $p>0.05$) presence or absence of support ($\chi^2=2.58$, $p>0.05$), presence of any past psychiatric illness ($\chi^2=2.22$, $p>0.05$), cigarette smoking ($\chi^2=4.7$, $p>0.05$) and drug use ($\chi^2=5.16$, $p>0.05$).

The duration of headache and presence of headache in the family was significantly higher in the headache group. Presence of psychiatric illness in the family and presence of subjective stressors individuals felt were significantly higher in the psychiatry group ($p<0.001$).

Comorbid mental health problems were determined in 57 of headache patients (80.3%). Except for 12 persons with pain disorder (9 persons) and pain disorder related to general medical condition (3 persons) diagnoses, 45 people (63.4%) in the psychiatry group had comorbidity. Thirty eight of these patients (84.4%) had a single mental disorder and 7 (15.6%) had two. In psychiatry group, there were 5 people (7.0%) with comorbid mental disorders (Table 1).

Depressive disorders were determined in 46 patients (64.8%) in psychiatry group and in 29 people (40.8%) in the headache group. The difference between groups was significant. Anxiety disorders were determined in 20 people (28.2%) in headache group and in 27 people (38.0%) in psychiatry group and the difference between groups was not significant. Pain disorder was determined in 34 people (47.9%) in headache group and in 2 people (2.8%) in psychiatry group, the difference was

significant. The difference between groups was not significant when compared in terms of clinical features such as presence of comorbid physical illnesses, presence of past psychiatric illnesses, cigarette smoking and drug use (Table 1).

When the duration of headaches between groups was compared, the durations were found to be longer in the headache group. In the headache group, 19 people (26.8%) had headache complaints lasting for 1-12 months, 25 (35.2%) for 13-60 months and 27 (38.0%) 60 months and longer. In the psychiatry group, these figures were 13 (29.5%), 25 (56.8%) and 6 (13.6%) respectively. This difference between groups was found to be statistically significant and it was determined that the difference resulted from psychiatric patients who had migraines and headaches (Table 2).

On the other hand, while the average severity of pain determined with VAS was 7.23 in the headache group, it was 3.42 in psychiatry group and the difference between groups was extremely significant ($p<0.001$). When the three subgroups with headaches were compared, the severity of headaches among patients with migraines was significantly higher than patients in the psychiatry group (Table 2).

Table 1: Clinical characteristics of headache and psychiatry groups

	Headache Group		Psychiatry Group				
	n	%	n	%	χ^2	df	p
Headache	71	100.0	44	62.0		1	<0.001
Psychiatric disorder (MINI)	57	80.3	71	100	15.531	1	<0.001
Number of comorbid psychiatric disorder							
0	14	19.7	0	0.0	31.66	3	<0.001
1	35	49.3	64	90.1			
2	17	24.0	7	9.9			
3	5	7.0	0	0.0			
Number of comorbid psychiatric disorder out of pain disorder							
1	38	84.4	66	93.0	15.28	1	<0.001
2	7	15.6	5	7.0			
Pain disorder	34	47.9	2	2.8	38.10	1	<0.001
Depressive disorder	29	40.8	46	64.8	8.17	1	0.004
Anxiety disorder	20	28.2	27	38.0	1.56	1	NS
Psychiatric disorder in the past	26	36.6	21	29.6	0.80	1	NS
Duration of pain							
1-12 Month	19	26.8	13	29.5	8.625	2	0.013
13 - 60 Month	25	35.2	25	56.8			
More than 60 Month	27	38.0	6	13.6			
Somatic disease	21	29.6	26	36.6	0.795	1	NS
Smoking	16	22.5	19	26.8	0.341	1	NS
Drug use	2	2.8	2	2.8	0.000	1	NS

NS: Non-significant, χ^2: Chi-square test

Table 2: Comparison of groups in terms of duration and severity of headache

	Origin of variance	n	Mean	Standard deviation	F	p	Significant difference
Duration of headache (Month)	Psychiatric patients without headache	44	35.57	30.226	5.257	0.007	Between psychiatric patients without pain and patients with migraine
	Migraine	43	85.58	99.233			
	Tension type headache	27	55.28	69.871			
Severity of headache (VAS)	Psychiatric patients with headache	44	5.52	2.786	8.217	<0.001	Between psychiatric patients with pain and patients with migraine
	Migraine	43	7.67	2.142			
	Tension type headache	27	6.50	2.391			

Comparing is done with ANOVA (Post Hoc test: Bonferroni), VAS: Visual Analog Scale

Table 3: Comparison of subgroups of headache and psychiatric groups in terms of clinical characteristics

		Psychiatry group		Headache group			
		Headache None (n=27)	Headache Exist (n=44)	Migraine (n=43)	TTH (n=27)	χ^2	p
Pain disorder (%)		1 (3.7)	1 (2.3)	7 (16.3)	27 (100)	99.97	<0.001
Anxiety disorder (%)		14 (51.9)	13 (29.5)	10 (23.3)	10 (37)	6.58	NS
Depressive disorder (%)		15 (55.6)	31 (70.5)	18 (41.9)	11 (40.7)	9.23	0.026
Number of current psychiatric disorder (%)	0	0 (0.0)	0 (0.0)	13 (30.2)	0 (0.0)	73.05	<0.001
	1	22 (81.5)	42 (95.5)	24 (55.8)	11 (40.7)		
	2	5 (18.5)	2 (4.5)	6 (14)	11 (40.7)		
	3	0 (0.0)	0 (0.0)	0 (0.0)	5 (3.5)		
Psychiatric disorder in the past (%)		7 (25.9)	14 (31.8)	14 (32.6)	12 (44.4)	2.22	NS
Existence of somatic disease (%)		11 (40.7)	15 (34.1)	17 (39.5)	4 (14.8)	5.59	NS

NS: Non-significant, χ^2: Chi-square test

Table 4: Distribution of psychiatric diagnoses of headache and psychiatric groups

Number of diagnoses	Psychiatric diagnoses	Headache group		Psychiatric group	
		n	%	n	%
0	None	14	19.7	-	-
1	Dysthymia	1	1.4	1	1.4
	Adjustment disorder with depressive mood	6	8.5	6	8.5
	Major Depression	8	11.3	33	46.5
	Obsessive Compulsive Disorder	2	2.8	2	2.8
	Generalized Anxiety Disorder	4	5.6	3	4.2
	Social Phobia	1	1.4	3	4.2
	Panic Disorder	0	0.0	7	9.9
	Adjustment disorder with anxiety	1	1.4	8	11.3
	Agoraphobia	0	0.0	1	1.4
	Pain Disorder	9	12.7	0	0.0
	Pain Disorder Associated with a General Medical Condition (GMC)	3	4.2	0	0.0
2	Major Depression, Agoraphobia	1	1.4	0	0.0
	Major Depression, Pain Disorder	5	7.0	1	1.4
	Major Depression, Pain Disorder Associated with a GMC	2	2.8	0	0.0
	Major Depression, Premenstrual Syndrome	1	1.4	0	0.0
	Adjustment disorder with anxiety, Pain Disorder	2	2.8	0	0.0
	Adjustment disorder with depressive mood, Pain Disorder	1	1.4	1	1.4
	Dysthymia, Major Depression	0	0.0	1	1.4
	Dysthymia, Premenstrual Syndrome	0	0.0	1	1.4
	Obsessive Compulsive Disorder, Pain Disorder	2	2.8	0	0.0
	Social Phobia, Pain Disorder Associated with a GMC	1	1.4	0	0.0
	Social Phobia, Major Depression	0	0.0	1	1.4
	Generalized Anxiety Disorder, Pain Disorder	1	1.4	0	0.0
	Generalized Anxiety Disorder, Pain Disorder Associated with a GMC	1	1.4	0	0.0
	Generalized Anxiety Disorder, Major Depression	0	0.0	1	1.4
	Generalized Anxiety Disorder, Social Phobia	0	0.0	1	1.4
3	Major Depression, Premenstrual Syndrome, Pain Disorder	1	1.4	0	0.0
	Major Depression, Social Phobia, Pain Disorder	3	4.2	0	0.0
	Obsessive Compulsive Disorder, Adjustment Disorder with Anxiety, Pain Disorder	1	1.4	0	0.0
	Total	71	100	71	100

When groups were compared in terms of clinical features, there were no significant differences in terms of anxiety disorder, presence of past psychiatric illness and presence of physical illness. While pain disorder diagnosis was seen in 3.7% of patients without headaches in the psychiatry group and 2.3% of patients with headaches, in the headache group, pain disorder was seen in 16.3% of patients with migraines and in 100% of patients with tension headaches. The difference between groups was statistically significant. This

Table 5: Comorbid psychiatric diagnoses determined in patients with headache

Psychiatric diagnoses*	Type of Headache			
	Migraine		Tension Type Headache	
	n=36	%	n=50	%
Agoraphobia	1	%2.8	-	-
Pain Disorder	-	-	27	%54.0
Adjustment disorder with anxiety	1	%2.8	3	%6.0
Adjustment disorder with depressive mood	5	%13.8	2	%4.0
Dysthymia	1	%2.8	-	-
Pain Disorder Associated with GMC	7	%19.4	-	-
Major Depression	12	%33.3	9	%18.0
Obsessive Compulsive Disorder	2	%5.6	3	%6.0
Social Phobia	2	%5.6	3	%6.0
Generalized Anxiety Disorder	4	%11.1	2	%4.0
Premenstrual Syndrome	1	%2.8	1	%2.0

*More than one diagnosis was determined in some patients, GMC: General Medical Condition

difference resulted from the headache group, especially the tension headache subgroup (Table 2).

Depressive disorders (major depression, adjustment disorder with depressed mood, dysthymia) were seen in 55.6% of patients without headaches in the psychiatry group and in 70.5% of patients with headaches in the same group. They were seen in 41.9% of patients in the headache group with migraines and in 40.7% of patients with tension headaches. The difference between groups was statistically significant. It can be seen that this difference resulted from the main groups (Table 2).

A psychiatric illness was determined in 57 (80.3%) of headache patients and 14 (19.7%) had no psychiatric illnesses. In 57 of headache patients (80.3%) a psychiatric illness was determined. No psychiatric illness was determined in 14 (19.7%) of these patients. All patients who were diagnosed with tension headache in the neurology clinic were also diagnosed with psychogenic pain disorder when examined with MINI psychiatric evaluation. That is why all tension headache patients had psychiatric comorbidities (50 psychiatric comorbidity diagnoses in 27 patients with tension headache). In 18 of tension headache patients (66.6%) psychiatric disorders other than pain disorder were also determined. In these 18 patients, comorbidities such as adjustment disorder with anxiety, adjustment disorder with depressed mood, major depression, obsessive compulsive disorder, social phobia, generalized anxiety disorder and premenstrual syndrome were determined (Table 3).

Among migraine patients, 13 (30.2%) had no psychiatric illnesses. In 30 (69.8%) of them, a psychiatric illness was determined (in 30 patients with migraine and a psychiatric illness, 36 psychiatric comorbidities). Among migraine patients with psychiatric illnesses, only pain disorder related to general medical condition (PGMC) was determined among 3, and PGMC with comorbidity with another psychiatric illness was determined in 4. When pain disorder diagnoses were excluded, psychiatric comorbidity rate among patients with migraines was found to be 62.9%. Psychiatric diagnoses determined in patients with migraine headaches were: PGMC, adjustment disorder with anxiety, adjustment disorder with depressed mood, dysthymia, major depression, obsessive compulsive disorder, social fobia, general anxiety disorder and premenstrual syndrome. In the single patient who had cluster headache, no psychiatric illness was determined (Table 4).

DISCUSSION

In Turkey, the prevalence of pain among adults has been determined to be 63.7%. Among patients with pain who joined the study, 34.4% identified their head

as the first pain location (14). In a study conducted in a neurology outpatient clinic in Turkey, it was determined that 65.9% of patients who consulted the clinic had headache complaints; 26.2% of them were male and 73.8% were female (15). On the other hand, in a wide scale study conducted by MIRA Neurology Study Group on 3680 patients (62.9% female, 37.1% male) randomly selected from patients who applied to outpatient clinics in 41 neurology centers nationwide, 66.4% had headaches (primary consulting reason for 35.1% and for 31.3%, present among complaints). Among patients with headaches, 48.8% had migraines, 31.8% tension headaches and 18.9% headaches of another type (16). In our study, the rate of neurology patients with primary reason as headache for consultation to all outpatient clinic patients was found to be 27.2%, a lower rate than MIRA study. As patients who reported headache among other complaints were excluded in our study, the rate of those in total is not known.

In a study made among patients who consulted to or were sent to a psychiatry outpatient clinic with somatic complaints, it was reported that headache was the second most common (39%) complaint (17). In a study conducted to determine the prevalence of headaches in a psychiatry clinic, it was reported that only 32.3% had headache complaints; 13.7% of those had migraines and 12.6% were diagnosed with tension headache (18). In these patients who were being observed with different psychiatric diagnoses, comorbid migraine was determined with a frequency of 8.3% in anxiety disorder, 3.8% in major depression, 0.03% in panic attack, 0.3% in dysthymia and 0.3% in post-traumatic stress disorder (PTSD) cases. Tension headaches were determined with a frequency of 5.4% in anxiety disorder, 5.4% in major depression, 0.03% in panic disorder, 0.03% in obsessive compulsive disorder and 0.03% in PTSD cases (18).

In the psychiatry group admitting because of mental problems, the rate of patients with a headache complaint was 62%. In these patients, pain complaints other than headaches were not questioned. Reported headache rates were found to be higher than the general society average. A parallelism is seen between psychiatric disorders and headache. It can be argued that each situation increases the risk of the start of the other and that each illness facilitates the other with a different mechanism.

Psychiatric comorbidity is actually pretty common among headache patients consulting for treatment, especially among patients requesting a specialist, and is an important issue in planning the course of treatment for headache (4,19). It's often accepted as a negative prognostic indicator for headache treatment (19,20). In a study conducted by Juang et al. (21) 78% of migraine patients were diagnosed with psychiatric comorbidity. Of these patients 57% was diagnosed with depression, 11% with dysthymia, 30% with panic disorder and 8% with generalized anxiety. In the chronic tension headache group, 64% had psychiatric comorbidity. 51% was diagnosed with depression, 8% with dysthymia, 22% with panic disorder and 1% with generalized anxiety. When controlled in terms of age and gender, both depression and anxiety disorders were seen more common in women. In a Brazilian study, depression in different degrees was determined in 85.5% of migraine patients (27.1% mild, 37.2% medium, 21.5% severe) (22).

It has been reported that even though most headache patients do not present psychiatric comorbidities, the possibility of depression and anxiety disorders especially in migraine and chronic tension headache patients increases 2-5 times when compared to people with no headaches (4,23). It has been reported that among migraine patients, the risks of major depression and self-destruction increases 2.2-4 times (24,25) and that the possibility of suicide is high, regardless of presence of depression (25,26). It is observed that mood disorders in migraine patients are seen 3 times more than general population and this ratio increases in migraine patients who apply to hospitals (4). It has been reported that the rate of lifelong prevalence of psychiatric comorbidities such as depression (34%), dysthymia (9%) bipolar mood disorder type II (4%) manic period (5%), panic disorder (11%) generalized anxiety disorder (11%), obsessive compulsive disorder (9%), phobias (40%) and nicotine addiction (33%) are higher in migraine patients when compared to control groups (4,27). Compared to individuals without recurrent headaches,

psychiatric illnesses are observed to be disproportionably higher in patients with migraines or tension headaches. This comorbidity is mentioned both in epidemiological and clinical studies (1,4).

Anxiety and depression are more commonly seen in chronic tension headache patients compared to individuals without headaches (27,28). In a multicenter study, patients with tension headaches were compared in two groups with equal number of patients and psychiatric comorbidity was observed in 84% of chronic tension headache patients and 70% of episodic tension headache patients (29).

In Turkey, a study researching psychiatric comorbidities in patients with migraines without aura and episodic tension headache was published. The study was conducted with 45 patients. It was reported that in the diagnostic evaluation done with MINI, all episodic tension headache patients were diagnosed with pain disorder related to psychogenic factors; that 72% of these patients had a comorbid psychiatric diagnosis accompanying headache and that the most common psychiatric illness was dysthymia (56%). In the same study, 41.4% of migraine patients without aura were diagnosed with psychiatric illnesses; 27% were diagnosed with dysthymia disorder and 6.7% with OCD (30).

In our study, psychiatric comorbidity was determined in 80.3% of patients with headache. 69.8% of migraine patients and all of tension headache patients received at least one psychiatric diagnosis. All of tension headache patients met the pain disorder diagnosis criteria in the psychiatric evaluation done with MINI as opposed to only 7 patients (9.9%) with migraines. In patients with tension headache, pain disorder was found to be significantly high. When pain disorder was excluded, psychiatric comorbidity was still determined in 66.6% of tension headache patients and 62.9% of migraine patients.

There are significant commonalities between pain disorder and tension headache diagnosis criteria and this constitutes the theoretical basis of the same patient receiving different diagnoses from psychiatry and neurology. Tension headache is described as "Headache attacks with heavy, pressing, blunt (non-throbbing) mild or medium pain on both sides of the head, not increasing with physical activity, without nausea or vomiting, occurring with only one of either photophobia or phonophobia, without an underlying systemic or neurological disorder, lasting from 30 minutes to 7 days". At least 10 attacks are needed for the diagnosis and patients whose attack frequency are less than 1-15 days a month, 15-180 days a year are diagnosed with episodic, while patients with higher frequencies are diagnosed with chronic tension headache. These features also form the foundation for a head-focused "pain disorder" diagnosis made by psychiatrists (objectified with constructed diagnosis scales). This is the reason why all patients with tension headache were also diagnosed with pain disorder. It seems like this problem will be illuminated with joint efforts of psychiatry and neurology disciplines.

The fact that a psychiatric comorbidities other than pain disorder were determined in 2/3 of both migraine and tension headache patients suggests a wider overlap in diagnostic scales mentioned in the paragraph above. It would not be wrong to say that an overlap of this scale (2/3) makes distinguishing headaches as related or not related to psychiatric illness difficult and that more detailed differential diagnostic criteria are needed.

In an epidemiological study on the frequency of somatoform disorders conducted in Europe, 1 year prevalency of pain disorder was found to be 0.6% (31). In a study researching the prevalence of pain disorder among adult population conducted in Germany, lifelong prevalence was found to be 33.7% according to DSM-III-R and 12.3% according to DSM-IV. In pain disorder with 6 month prevalence, headache was found to be 20.7% in males and 28.5% in females according to DSM-III-R and 29.1% in males and 37.7% in females according to DSM-IV (32).

In a study conducted by the Ministry of Health in Turkey, a high pain disorder prevalence of 8.4% was found. The prevalence in individuals applying to medical institutions was determined to be 31.0% (33). The low prevalency seen in studies conducted in the West was attributed to the diminishment of misdiagnosis possibilities due to review of health records (34,35). In our study, pain disorder prevalence

was found to be 47.9% in the headache group and 2.8% in the psychiatry group.

When pain disorder was excluded, psychiatric comorbidity was determined in 45 individuals (63.4%) in the headache group (27 migraine, 18 tension headache). A single psychiatric illness was determined in 38 (84.4%) of these patients and two psychiatric illnesses were determined in 7 (15.6%). In the psychiatry group, a single psychiatric illness was determined in 64 (90.1%) individuals, while 7 (9.9%) individuals had two psychiatric illnesses.

The prevalence of determining mood disorders in headache patients was found to be 41.9% in patients with migraine and 40.7% in tension headache patients. In the psychiatry group, these rates were found to be 70.5% in patients with headache and 55.6% in patients without headaches. The prevalency of mood disorders was found to be significantly higher in psychiatry patients with headache. This is in accordance with the knowledge of the high prevalence of mood disorders in individuals with headache. But there is yet no accepted opinion on the etiologic connection of this co-occurrence and this subject awaits further research.

The prevalence of anxiety disorders among headache patients was found to be 23.3% in migraine patients and 37.0% in tension headache patients. In the psychiatry group, these rates were 29.5% in patients with headaches and 51.9% in patients without headaches. Even though the prevalence of anxiety disorders were found to be higher in the psychiatry without headache group, the difference between groups was not significant. The high rate of anxiety disorder in the psychiatry group without headaches and in tension headache patients within the headache group is remarkable. Both the fact that there was no difference between the groups and the high rate of anxiety disorder among patients without headaches in the psychiatry group makes one think that the relationship of headache with anxiety is not as close as headache with mood disorders.

In our study, single psychiatric comorbidity was determined in 55.8% of migraine patients and 2 psychiatric comorbidities were determined in 14.0%. 40.7% of headache patients received single, 40.7% two and 3.5% three psychiatric comorbidity diagnoses. On the other hand, in a 8 year long follow-up study conducted on headache patients, 43.7% of migraine patients received a single psychiatric comorbidity diagnosis with 21.9% receiving multiple comorbidity diagnoses. These rates were 50.0% and 30.6% respectively for tension headache (35). The rates were found to be higher in our study in terms of multiple psychiatric diagnoses.

While the rate of active headache complaint among psychiatric patients is 62.0%, the rate of psychiatric comorbidity diagnosis in the headache group (excluding pain disorder) is as high as 63.4%. Respective comorbidity diagnoses between two groups are very close. On the other hand, a second psychiatric comorbidity was seen only in 9.9% of psychiatry patients while 5/6 of headache patients had one and 1/6 had two psychiatric comorbidities. Among psychiatry patients, only 9.9% received a double psychiatric comorbidity diagnosis.

In the prevalence of psychiatric comorbidity diagnoses, there are significant gender differences. Prevalence of lifelong diagnosis was found to be 24% for 30 year old women and 9% for men for migraine and 24% and 13% respectively for major depression. It is observed that in women, the risk for migraine in late puberty and the risk for major depression after age 20 increases relatively.

Vertical study data determined that women's tendency to develop migraines is four times higher then men. Their risk to develop depression is twice as high. (4,36). In our study, the ratio of women/men was determined to be 7/1. While this reflects the tendency for headaches in women, it is impossible to generalize this for the whole society.

When the severity of headaches of patients in our study was evaluated with VAS, the severity of pain reported by migraine patients was significantly higher than those of psychiatric patients with headaches. This was expected since ICHD required a pain severity of intermediate to severe for a migraine diagnosis. But no significant difference was determined in terms of pain severity between tension headache group and the psychiatry with headache group. Headache appearing as one of the somatic complaints of depression proves

to be a confusing factor, especially for tension headache diagnosis. Since the most common physiological anomaly in tension headache is the increase in tension on muscles surrounding the head which can also be seen in depression, it is crucial to differentiate the headache that manifests as a somatic symptom of depression (37).

A two-way relation between depression, migraine headache and severity of pain was established and depression was reported as a risk factor for migraine (24,38). It was observed that the prevalency of depression was higher in migraine when compared with similar severe headaches. It was reported that the risk for depression increases 6 times after migraine in cases with simple psychiatric complaints (24).

In ICHD, headaches that manifest during the course of psychiatric illnesses are classified as secondary headaches. The existing medical literature on the psychiatric reasons of headaches is insufficient. But some studies show that the most common relationship between headache and psychiatric patients is the two way model rather than causation. This relationship is seen more clearly between migraine and affective disorders. Neurochemical features underlying primary headache disorders such as migraine and various psychiatric disorders show similarities in many aspects. Even though these types of relationships are seen more frequently, this fact does not eliminate the possibility of causality. But, as creators of classification systems also point out, in order to establish a connection based on causality between headache and psychiatric disorders, the headache must only be present during the course of the psychiatric disorder and other symptoms of the psychiatric disorder must be continuing (3,39). In a retrospective study conducted on headaches secondary to psychiatric disorders (HSPD) it was seen that HSPD diagnosis was not used often in practice, that when used, the diagnostic criteria of ICHD II was not applied exactly and no attention was paid to the criteria "headache is only present during the course of the psychiatric disorder". It was reported that not only atypical headaches but descriptions fitting of migraines and tension headaches were diagnosed as HSPD. It was determined that the "headache due to somatization disorder" diagnosis is not used as much as depression and those related to generalized anxiety in practice, even though it is listed among psychiatric disorders accompanying HSPD diagnosis (40).

It can be expected that besides diagnostic problems created by the overlap of diagnostic criteria of tension headache in psychiatry and neurology, the separation of psychological factors creating headache symptoms resulting in high comorbidity can significantly benefit the cure for this syndrome.

When the study results are interpreted, it can be suggested that given the high rate of headache as a symptom in psychiatric patients when compared to general population rates and its proximity to the rate of patients applying to neurology outpatient clinic with headache complaints, psychiatrists should pay attention to this symptom. The parallelism between headache and psychiatric disorders and the possibility of reciprocal triggering should be an important warning for neurologists to think of the high possibility of the existence of comorbid psychiatric disorders. The negative results of the negligence of psychiatric disorders in the evaluation and treatment of patients can be predicted. Obviously, the cooperation of these two medical fields is inevitable both for diagnoses and effective treatment of illnesses.

The confusion created by the overlap of tension headache diagnosis established according to ICHD criteria and the pain disorder diagnosis established with DSM-IV as seen in similar studies is remarkable. Since "no established bodily etiological factor" is defined as a diagnosis criterion in both, this overlap is not a coincidence and carries continuity. The definition of the physiological factor of tension headache as the tension of muscles around the head does not illuminate the reasons for this muscle tension and the uncertainty of these results in the continuity of the confusion created by this overlap. It is obvious that parallel studies conducted on headaches in psychiatric disorders and the psychophysiology of neurologic headaches will have an important role both in generally illuminating the etiology and psycho-physiopathology of headache and in decreasing the confusion in the diagnosis systems.

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